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Trainer Instruction for the Aircrew Coordination Exportable Training Package

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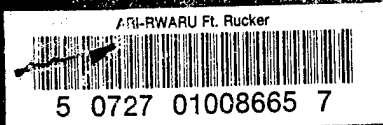
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13. ABSTRACT (Maximum 200 words) The US Army Aviation Center (USAAVNC) requested the US Army Research Institute Aviation Research and Development Activity (USARIARDA) to provide an in-depth, train-the-trainer course to prepare a cadre of selected instructor pilots (IPs) to field the Aircrew Coordination Exportable Training Package. USARIARDA and Dynamics Research Corporation prepared and conducted a 12-day, modified Aircrew Coordination Instructor Course and provided post-training consultation to the cadre. Ten IPs and one nonrated crewmember were trained; five of the IPs, one per each mission-type aircraft (attack, cargo, observation, utility, and fixed wing) were certified by USAAVNC as Aircrew Coordination Trainers. Post-training consultations were held prior and subsequent to the cadre's visit to Fort Campbell, KY.				
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Task Area 8
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Delivery Order #0007

**TRAINER INSTRUCTION
FOR THE
AIRCREW COORDINATION
EXPORTABLE TRAINING PACKAGE**

November 1993

Prepared by:

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Prepared for:

USARIARDA/PERI-IR

Ft. Rucker, AL 36362

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TRAINER INSTRUCTION FOR THE AIRCREW COORDINATION EXPORTABLE TRAINING PACKAGE

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TRAINER INSTRUCTION FOR THE AIRCREW COORDINATION EXPORTABLE TRAINING PACKAGE

Introduction

This working paper documents the trainer instruction (Aircrew Coordination Cadre Course) provided to the US Army Aviation Center (USAAVNC) Crew Coordination Training Team to prepare them to field the US Army Aircrew Coordination Exportable Training Package (Pawlik, Simon, Grubb, & Zeller, 1992b). Training for the USAAVNC Crew Coordination Training Team was conducted at Fort Rucker, AL from August 2 to 17, 1993. Ten instructor pilots (IPs) were trained; i.e., the five designated members of the USAAVNC Crew Coordination Training Team, referred to as the cadre, plus five additional IPs so as to provide a complete aircrew for each mission-type aircraft in the Army aviation inventory (attack, cargo, observation, utility, and fixed wing). Upon completion of training, the five cadre IPs (one per each mission-type aircraft) were certified as USAAVNC trainers to qualify other crew coordination instructors in the field. One nonrated crewmember was trained to facilitate the integration of crew coordination training into the CH-47 Flight Engineer Instructor Course. End of course exit interviews (see Appendix A) indicated that the training objectives were met and the cadre was confident in its ability to effectively propagate aircrew coordination instruction throughout Army Aviation.

Background

The US Army Research Institute Aviation Research and Development Activity (USARIARDA) began an aircrew coordination research program in 1989 (Leedom, undated) to determine whether the benefits of crew coordination training could be objectively measured. To support this research, Dynamics Research Corporation (DRC) developed and validated a crew coordination measurement suite (Simon, 1990). The measurement suite, which employed behaviorally anchored rating scales (BARS), was validated (Simon, 1991) using rated helicopter crewmembers from line aviation organizations at Fort Campbell, KY.

After refining the measurement suite, DRC developed a context within which the value-added performance benefits of crew coordination could be measured by the suite. The context was to include classroom instruction and hands-on training. The hands-on training, including visual flight simulators and tactical scenarios based on the tested unit's mission, was to reinforce the crew coordination principles learned in the classroom. During February - August 1992, under the guidance of the USAAVNC Aircrew Coordination Working Group, DRC prepared a candidate Aircrew Coordination Exportable Training Package (Pawlik, Simon, Grubb, & Zeller, 1992a). This two-volume package (Instructor Guide and Reference Book) comprised an Aircrew Coordination Instructor Course and an Aircrew Coordination Student Course.

A demonstration and validation testbed of the candidate Aircrew Coordination Exportable Training Package (Pawlik et al., 1992a) was conducted at Fort Campbell, KY, between August 2-31, 1992. Four UH-60 Black Hawk IPs and four unit trainers (UTs) were trained for the testbed. The 8 newly trained instructors taught 16 unit aircrews and then evaluated their performance. All testbed objectives were met, and the candidate training and evaluation materials (Pawlik et al., 1992b; Grubb, Simon, & Zeller, 1992) were finalized and provided to USARIARDA in December 1992. This final package included three volumes: a Training Guide, an Instructor Guide, and a Student Guide.

Subsequent to the Fort Campbell, KY, testbed, the Aircrew Coordination Exportable Training Package (Pawlik et al., 1992b) was conducted several times in support of other USARIARDA research activities. On May 12-14, 1993, an Evaluator Course was conducted for four USAAVNC Directorate of Evaluation and Standardization (DES) IPs who were to participate in an USARIARDA-sponsored battle-rostering/crew coordination research project. Also in support of the battle-rostering/crew coordination research project, six IPs (four AH-64, two OH-58) and five UTs (four AH-64, 1 OH-58) from the 229th Aviation Regiment, Fort Rucker, AL, were trained from June 1-11, 1993. These instructors subsequently trained 15 AH-64 unit aircrews and 19 OH-58 crewmembers from June 14 - July 7, 1993.

Oral and written exit interviews gathered after each presentation of the Aircrew Coordination Exportable Training Package (Pawlik et al., 1992b) surfaced several issues that needed to be resolved before training of the USAAVNC cadre began. These issues and their resolution are discussed in the following section.

Preparation for Training

Pretraining Issues and Resolution

Preparation for the subject training, referred to in this paper as the Cadre Course, primarily concerned resolving the issues that surfaced during previous presentations of the Aircrew Coordination Exportable Training Package (Pawlik et al., 1992b). The pretraining issues are shown in Table 1.

USAAVNC addressed and resolved the pretraining issues as follows.

1. Including the pretraining and post-training evaluation missions (rides) in the Cadre Course

The pretraining and post-training evaluation missions were included in the Aircrew Coordination Instructor Course (Figure 1) and the Student Course effective with the 1992 Fort Campbell testbed. As shown in Figure 1, the two segments embedded in the Aircrew Coordination Instructor Course, Classroom Instruction and SIM/FLT TRNG (Simulator/Flight Training), compose the Aircrew

Coordination Student Course. The remaining three segments, Methods of Instruction (MOI), Evaluation Procedures and Scenario Development, and Scenario Familiarization and Evaluation (Scenario Familiar. & Eval.), are taught only in the Instructor Course. The SIM/FLT TRNG segment comprises four missions in either the simulator or the aircraft (an initial evaluation pretraining ride, training rides 1 and 2, and a post-training evaluation ride). An additional mission, to provide evaluation practice for the IPs, is included in the Scenario Familiar. & Eval. block. As shown in Figure 1, the Pretraining Ride was positioned as the first element of the course, primarily to baseline student performance. This placement was the result of feedback from IPs and aircrews attending previous iterations of the exportable training package (Pawlik et al., 1992b). However, despite the advantages of providing recency of experience, shared experience, and course progress, it was determined that because of the in-depth nature and length of the Cadre Course (Figure 2), the pretraining and post-training evaluation rides (missions) would not be included. They would, however, be included in all courses taught during the fielding effort.

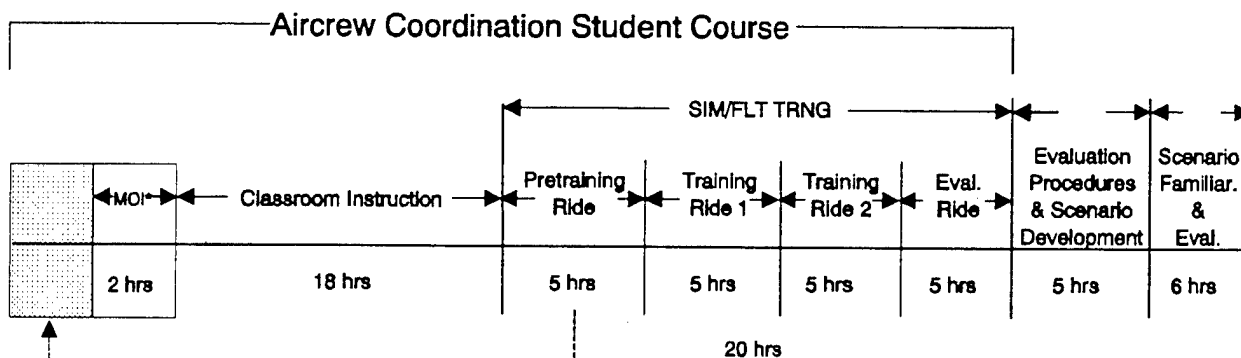
2. Identifying multiple-use 35mm slides

When preparing slide trays to conduct crew coordination courses in the field, cadre members were not aware that certain viewgraphs needed to be used more than once. As a result, the trays were missing slides to support the instruction. This was explained and noted in an errata sheet, and the additional slides were procured and loaded.

Table 1

Pretraining Issues

-
1. Including the pretraining and post-training evaluation missions in the Cadre Course
 2. Identification of multiple-use 35mm slides
 3. Addition of a Cadre Course viewgraph to the approved instruction
 4. Sequencing the Methods of Instruction block
 5. Interpretation of battle-rostering guidance
 6. Updating accident statistics
 7. Crew coordination standards for ATM tasks
-



*MOI (Methods of Instruction) is part of the Aircrew Coordination Instructor Course.

Figure 1. Aircrew Coordination Instructor Course

ACADEMICS			SIMULATOR/ FLIGHT TRAINING		ACADEMICS			SIMULATOR/ FLIGHT TRAINING	ACADEMICS		
Introduction CCO1*	CCO2 CCO3 CCO4	CCO4 (cont.) CCO5	Training Mission #1	Training Mission #2	Scenario Develop. Practice Scenario	Evaluation Procedures Evaluation Workshop	Evaluation Materials Preparation	Flight Training Practice Evaluation	MOI** Teach- Back	Teach- Back	Teach Back Graduation
Training Day 1	Training Day 2	Training Day 3	Training Day 4	Training Day 5	Training Day 6	Training Day 7	Training Day 8	Training Day 9	Training Day 10	Training Day 11	Training Day 12

* CCO - Crew Coordination Objective

** MOI - Methods of Instruction

Figure 2. Cadre Course

3. Adding a Cadre Course viewgraph to the approved instruction

In developing the Cadre Course, additional details were noted on Cadre Course Viewgraph #3 (C-VG 03) to explain lesson plan marginal information (see Figure 3). It was determined that the viewgraph would be added to the approved instruction to help explain the marginal information provided.

4. Sequencing the Methods of Instruction block

Instructor exit interview comments recommended moving the Methods of Instruction (MOI) segment from the beginning (see Figure 1) to the end of the Instructor Course. Since the MOI segment deals with instructional presentation methods, it briefly addresses many of the concepts and principles introduced shortly thereafter in the Student Course. Project staff and students found this presentation of virtually the same information in two different contexts within a short time to be confusing. Therefore, the MOI segment was shifted to the end of the course so that students first learn the aircrew coordination principles and their underlying concepts during the Student Course, and they are then presented the methods. Shifting the MOI segment required developing a lead-in one-hour block of instruction entitled, "Crew Coordination Courses" (see Appendix B for lesson plan), and revising the "Methods of Instruction" approved lesson plan (see Appendix C for revised lesson plan). The revised MOI segment was successfully used during the Cadre Course (see Figure 2) and provided the cadre with an alternative instructional approach.

5. Interpreting the battle-rostering guidance

Message, CDRUSAAVNC, 231300Z JUL 93, Subject: Implementation of TC 1-210, Commander's Guide to Individual and Crew Training (Department of the Army, 1992), relieved commanders from implementing crew readiness level progression or crew coordination training until completion of the USARIARDA battle-rostering/crew coordination research project. Because the message also announced the fielding of the Crew Coordination Exportable Training Package (Pawlik et al., 1992b), it is expected that the crew coordination fielding effort will be positively impacted. See Appendix D for a copy of the message.

6. Updating accident statistics

Accident statistics are cited during training. To present the current aviation accident posture requires updated statistics. Cadre and crew coordination instructors in the field were advised to use the US Army Safety Center (USASC) Aviation Safety Management Information System (ASMIS). Access to accident information is through the ASMIS Retrieval and Processing System (ARPS) available at each installation safety office.



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MARGINAL INFORMATION AND OTHER REMARKS

- Time hacks (pg. 3-11)
- Vu-graphs and repeated use (pg. 3-12)
- Video vignettes (pg. 3-13)
- Talking point bullets (pg. 3-13)
- Instructor notes (pg. 3-13)
- Student Guide page alignment (pg. 3-15)
- Background reading reference (pg. 3-21)
- Appendix reference (pg. 3-21)
- Practical exercise information (pg. 3-48)
- Need to keep good notes

Note: Pages referenced are from the Instructor Guide (Pawlik et al., 1992b)

Figure 3. Cadre Course Viewgraph #3 (C-VG 03)

7. Crew coordination standards for Aircrew Training Manual (ATM) tasks

The ATMs state, "Correctly perform crew coordination actions"; however, no objective standard is provided. The standard agreed to by the cadre is the "Acceptable" rating (4) of the BARS described for each Basic Quality associated with the evaluated ATM task (see Appendix E for BARS example). BARS is explained in detail in Appendix E of the Student Guide contained in the Aircrew Coordination Exportable Training Package (Pawlik et al., 1992b).

Training Strategy

Previous crew coordination courses taught in support of the various testbeds did not fully explain the development of the crew coordination models or the derivation of the Basic Qualities. It was believed, however, that the cadre members needed to thoroughly understand the evolution of the crew coordination training program. Project staff felt that with this understanding, the cadre would more effectively transfer the crew coordination principles to the field.

Because the project staff would not audit the cadre during their training visits, it was decided that the instructor teach-back concept would be used; that is, the newly-trained cadre members would present a 1-hour block of instruction as they would teach it in the field. Each cadre member would then be critiqued by the project staff and fellow cadre members to ensure that the material was understood in depth and had been presented effectively.

A second concept initiated with the Cadre Course was the practice evaluation ride. Previous crew coordination instructors who had been trained by the project staff had received evaluation training but had not done a hands-on practice before actually evaluating student aircrews. This shortcoming was recognized and corrected in the final Aircrew Coordination Exportable Training Package (Pawlik et al., 1992b); however, the evaluation ride had not been previously implemented. Using this evaluation technique was invaluable to the cadre because they could then operate all of the video recording equipment, use the evaluation materials, and practice the debriefing techniques they had been taught. Along with the teach-back concept, the practice evaluation ride was instrumental in preparing the cadre to present classroom and hands-on instruction.

Conduct of the Training

The Cadre Course was conducted using the Ford Academic Training Complex, Goodhand Simulator Complex, and Shell Army Airfield facilities.

Training Schedule

The 12-day training schedule developed for the Cadre Course, shown in Appendix F, incorporated the training strategy discussed above.

Classroom Instruction

The Cadre Course employed a variety of instructional techniques and multimedia training devices. Both viewgraphs and 35mm slides were tested, with preference being given to the viewgraphs due to classroom lighting requirements. Facilities for the Classroom Instruction phase were above average; however, classrooms had to be changed every morning and afternoon because of the Aviation School's classroom requirements. This was an ineffective use of time because each move involved reconfiguring one classroom to the horseshoe arrangement used for crew coordination instruction while simultaneously restoring the previously used classroom to its original configuration.

The revised MOI approach discussed in a previous section was used in the Cadre Course. This approach included the 1-hour introductory segment of instruction entitled, "Crew Coordination Courses" (Appendix B). The Student Course was then conducted, followed by the scenario development and evaluation phases of the Instructor Course. The last segment of platform instruction was the revised MOI (Appendix C), which embodied a detailed review of all platform instruction, together with a newly developed administrative support plan checklist (Appendix G). The detailed review was necessary to allow the cadre to obtain clarification from the project staff on any concept, principle, procedure, method, or model presented during the course. The administrative checklist was added to provide the cadre with the administrative actions necessary to set up and conduct the aircrew coordination courses. The checklist was based on the project staff's experience in conducting previous iterations of the courses.

Simulator/Flight Training and Evaluation

A variety of simulators (AH-64, CH-47, UH-60, and C-12) and one aircraft (OH-58) were used during the simulator/flight training phase. The simulators had recently been configured to enable the videotaping of the crew's activities. Video playback equipment was also provided for the instructors, evaluators, and aircrews to review mission performance.

As stated in a previous section, the pretraining and post-training evaluation missions were not used in the Cadre Course. The cadre performed Student Course training missions one and two and were then rated by the project staff as to their correct performance of crew coordination actions (Basic Qualities). The cadre and the project staff graded each ATM task and determined the overall grade for the mission.

The third simulator mission, being implemented for the first time, was the practice evaluation mission from the Instructor Course. This mission enabled the cadre member to practice evaluating a subject aircrew. As such, it allowed the cadre member to practice everything learned in the Cadre Course. Cadre members agreed that the practice evaluation mission was necessary before actually rating student aircrews. One of the cadre's major observations was that it was virtually impossible for an evaluator to also perform the duties of the Instructor Operator (IO) during the mission.

OH-58 Training and Evaluation Problems

Although the simulator phase of the cadre crew coordination training was not without problems, the problems encountered during the OH-58 flight training phase were more difficult to resolve. Additional time had to be programmed for travel to the flight line, preflights, runups, taxiing, weather, and flight plan close-out. Cameras could not be mounted in the aircraft; however, audio recorders were used to record all cockpit verbal communications. Although not totally suitable for collecting crew coordination mission data, the audio recorder is the only viable method presently available (Zeller & Grubb, in press).

Instructor Teach-Back Assignments

Instructor teach-back was a new concept to be employed in the Cadre Course. The project staff needed to assess the cadre's understanding of the crew coordination principles and their ability to teach them in the field. As with the practice crew coordination evaluations, this was a valuable experience for the cadre members. How much each cadre member prepared was immediately evident and ran the gamut from none to extensive. The project staff soundly critiqued cadre performance and were assured that corrective action would be taken. Both cadre and project staff agreed that the cadre's belief and confidence in the training materials were critical to the field's acceptance of the benefits of crew coordination. If not positively projected, the field might not place any value on the training.

Maintenance of Course Integrity

The project staff also observed during the instructor teach-back phase that instructional material changes must be controlled to preserve the integrity of the crew coordination courses. Currently, the courses in the field are not being quality controlled and nonstandard material may find its way into the instruction. For example, when instructors were unsure of the instructional material, they tended to improvise or replace the material with more familiar information. This was corrected on the spot. Rewrite of lesson plan material must also be tightly controlled with changes approved only by a central authority. Without quality control of the field courses and approval of lesson materials by a central authority, the exportable training

package will lose its standardized nature and overall effectiveness.

Cadre Course Exit Interviews

Although the Cadre Course was designed as a one-time course, the project staff believed that information relevant to future crew coordination training could be obtained through post-training exit interviews with the cadre (Appendix A). Cadre comments indicated that all objectives of the training were met and that they were adequately prepared to provide crew coordination training to the field.

Post-training Consultation

The project staff made itself available on a limited basis to consult with USAAVNC and the cadre on issues related to the fielding of the crew coordination program to Army aviation units world-wide. The first consultation was held following the Cadre Course exit interviews. The second was held prior to the cadre's visit to Fort Campbell, KY. The last consultation was held subsequent to the cadre's return from Fort Campbell, KY.

Post-training Issues and Resolution

The post-training consultation involved the discussion of the training issues identified during the presentation of the Cadre Course. Table 2 lists the post-training issues.

Table 2

Post-training Issues

-
1. Defining the Two Challenge Rule
 2. Defining the Most Conservative Approach
 3. Using the Cross-Walk Chart as a training aid
 4. Determining the status of the reproducible pages
 5. Availability of aviation accident videos
 6. Standard entries on the DA Form 759 (Department of the Army, 1986)
 7. Videotaping the premission planning and after-action reviews
 8. Developing a video recording equipment operating checklist
 9. Establishing the differences among Crew Coordination Courses
 10. Providing videotape rewind/erase capability
-

Having completed the course, cadre members commented on providing crew coordination program information to senior Army staff, commanders employing aviation assets, and flight line IPs. These comments are discussed in the "Conclusions" section; proposed actions are provided in the "Recommendations" section. The following post-training issues, shown in Table 2, were discussed and resolved.

1. Defining the Two Challenge Rule

It was agreed that the current definition of the Two Challenge Rule taught in the Student Course is acceptable.

2. Defining the Most Conservative Approach

It was agreed that the current definition of the Most Conservative Approach taught in the Student Course is acceptable.

3. Using the Cross-Walk Chart as a training aid

It was decided that the Cross-Walk Chart would be reproduced as a wall-sized training aid.

4. Determining the status of reproducible pages

Reproducible pages had been provided to the Crew Coordination Fielding Project Manager, Aviation Training Brigade, USAAVNC, who was in the process of having sufficient copies prepared for the Fort Campbell, KY, fielding trip. The Aviation Training Brigade will prepare additional copies of reproducible items in accordance with the fielding schedule.

5. Availability of aviation accident videos

The cadre will determine if additional aviation accident videos are on hand at USASC or other Training Aids Support Centers (TASC) to supplement those currently used in the crew coordination training program.

6. Standard entries on the Individual Flight Record and Flight Certificate - Army (DA Form 759; Department of the Army, 1986)

DES will prepare a standard entry for the DA Form 759 accrediting completion of initial aircrew coordination training.

7. Videotaping the premission planning and after-action reviews

The cadre decided that the training value of videotaping the premission planning and after-action review justified the additional expense of the videocameras and tapes.

8. Developing a video recording equipment operating checklist

Based on the operating failures encountered during the Cadre Course equipment checkout, it was decided to develop a video recording equipment operation checklist.

9. Establishing the differences among crew coordination courses

It was imperative that the cadre recognize that the Cadre Course was a one-time effort specifically tailored to meet the cadre's requirements. All subsequent presentations in the field were to follow the approved course outlines for the Instructor Course and Student Course with the exception of the MOI alternative discussed earlier.

10. Providing videotape rewind/erase capability

The subject of bulk erasers was addressed; however, funds are not available for such devices. Hughes Technical Services Company has provided rewind devices that should be used after the instructor critique. The tapes should then be reused for follow-on students which, in effect, erases the tape.

Fort Campbell, KY, Premission Planning

The cadre received consultation prior to their departure for Fort Campbell, KY. The detailed planning the cadre did in conformance with the administrative support checklist (Appendix G) was reviewed. All areas of interest were adequately covered and known contingencies were prepared for. The following issues were discussed and resolved:

- Furnishing the Trainer Guide to installation and division cadre - The cadre decided to leave several copies of the Trainer Guide at the visited installation. Additional copies, if required, would be reproduced locally by the Installation Flight Standards Office.

- Furnishing video recording equipment installation specifications - Specifications were provided to Hughes Technical Services Company, the contractor maintaining the Army flight simulators, for standardized installation and formats of approved video recording equipment and displays in aircraft visual flight simulators.

- Providing audio recording capability for OH-58 and UH-1 aircraft-based training - Two sets of audio recording equipment were procured and tested for use at Fort Campbell. The cadre wrote descriptions of the equipment and instructions to assist installations in procuring the equipment locally.

Fort Campbell, KY, After-Action Review

Upon return from Fort Campbell, the cadre met with the project staff for consultation. After-action review of implementing the exportable training package (Pawlik et al., 1992b) was structured around the following topics:

- Organization - (a) The cadre validated the option of presenting the Methods of Instruction segment near the conclusion of the course. (b) Substituting a practice evaluation mission for video tape segments was extremely effective.

- Content - (a) Total number of hours for the course is correct, with some tradeoff across blocks of instruction necessary to stay on schedule. (b) In the future, errata sheets will be provided in course read-ahead materials. (c) The two-challenge rule, most conservative response, and crew coordination standard items of instruction are fully acceptable.

- Administrative Support - A command letter or message establishing the requirement for crew coordination training is needed to ensure early command support at installation level.

- Schedule - The cadre needs to monitor new instructor presentations to unit aircrews for quality control of the course.

Conclusions

Based on the exit interviews and project staff assessment, the objectives of the training course were met. Several innovative instructional techniques, such as instructor teach-back, scenario testing, and practice student evaluations, were successfully incorporated into the training. The cadre is confident in their ability to train crew coordination instructors to present the Aircrew Coordination Student Course to unit aircrews; however, the capabilities of the crew coordination instructors trained in the field cannot be attested to since no quality control plan is in effect. As was noted during the Cadre Course and other iterations of the exportable training package (Pawlik et al., 1992b), instructors will tend to ad lib when their experience base is weak, thereby affecting course integrity and standardization of the instruction. Configuration and quality control, therefore, are extremely important issues in the fielding of the exportable training package.

Another issue requiring resolution is the definition of adequate crew coordination performance following initial crew coordination training. The exportable training package (Pawlik et al., 1992b) defines this as the "Acceptable" level of performance (4 rating); however, this definition has not been institutionalized. In conjunction with this observation, a standard statement on the DA Form 759 (Department of the Army, 1986) is also required to indicate the successful completion of initial aircrew coordination training.

Cadre students also revealed a concern about possibly having to educate officials who are responsible for aviation resources. It is unreasonable to expect junior aviation personnel to employ the concepts of assertion and advocacy if they are criticized for such behavior because their commanders are untrained in the principles of crew coordination. Without incorporating the "top-down" with the "bottom-up" approach (to include USAAVNC flight line IPs), acceptance of the aircrew coordination program in the field will be hampered.

Finally, the cadre expressed concern about the adequacy of the OH-58, in its several variants, as a crew coordination training platform. Although the Cadre preferred using the actual aircraft over substitute platforms (e.g., UH-1 nonvisual instrument simulator) they believe it was not as efficient as a combat mission simulator would be.

Overall, the project staff considers the cadre capable of implementing the Aircrew Coordination Exportable Training Package (Pawlik et al., 1992b) to Army aviation units world-wide.

Recommendations

The project staff recommends that USAAVNC do the following:

- Maintain configuration control of changes to the Aircrew Coordination Exportable Training Package (Pawlik et al., 1992b) to preserve the integrity of the instruction and the basic concepts and models.
- Designate the acceptable level (4) of the BARS for each Basic Quality as the standard for correctly performing crew coordination actions.
- Prepare a standard DA Form 759 (Department of the Army, 1986) statement accrediting completion of initial aircrew coordination training.
- Provide crew coordination training to flight line IPs so that they may serve as effective models for student aviators during Initial Entry Rotary Wing training. This is a problem that is not addressed by the cadre's mission.
- Develop a detailed Crew Coordination Program Briefing to update Aviation brigade and battalion commanders attending the Aviation Precommand Course.
- Develop a high-level Crew Coordination Orientation Briefing to inform senior Army officers who employ aviation assets on the changes within Army Aviation as a result of the implementation of the crew coordination program.

• Continue to explore all methods to make aircraft, such as the OH-58, into effective crew coordination training platforms.

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Appendix A

Exit Interviews

Crew Coordination Cadre Training Instructor - Evaluator Exit Interview

I. Introduction

This form is to be used as general guidance in structuring the debrief for the Crew Coordination Cadre Training Course Instructor and Evaluator participants, 2 - 17 August 1993. Questions are meant to be suggestive and should not restrict your answers. Some of the questions may overlap with others or seem repetitive, but we need to make sure that all the issues are covered. The order of the questions and answers is unimportant. You may skip a question if you answered it on a previous question. The entire set of questions will be discussed with the Instructors and Evaluators. The debrief forum will involve group interviews according to the published schedule.

Important

- Participants must bring the Aircrew Coordination Exportable Training Package materials to the debriefing.
- It is suggested that the questions be provided to the interviewees prior to the scheduled interview.
- There are no "right" or "wrong" answers. We are asking for your honest opinions so that we can improve the training methods and materials.

II. Course of Instruction

1. Was the number of students in the class about the right size for this training?

- Perfect.
- We could have as many as 16.
- Maximum size I recommend is 12 [several agreed with this number].
- We have 12 now, and it worked well with the assets we have.
- At Campbell, we'll run four UH-60 people, no Cobra people, for a total of ten in the first class.
- The first course at Campbell will become the Divisional core. They'll train others.
- There is an issue of who can train who. For instance, can a trained-up UT train an SP? The answer is yes.

2. Has adequate time (or too little/too much time) been allocated for each segment of the course? In answering this question, consider both the Instructor Course and the Student course.

- More time would be good, but it seems about right given other considerations.
- I can't assess it until we teach the course at least two times.
- Well, our course took two weeks—it was just right.

3. How many simulator sessions [AH] or flight periods [OH] are required in the Instructor Course? In the Student Course?

- Depends on the aircraft type. It may be different for the OH-58.
- We have some problems with the 5th [practice evaluation] ride. We could use it as a buffer day and maybe use video tape segments instead. I feel totally comfortable with the four rides.
- We need that 5th ride day to accommodate makeup periods and administrative errors. We need the buffer.
- I thought the video tape practice segments worked well. We could walk through the process using the tape.
- We could accomplish the practice evaluation by using a video tape of one of the evaluation or training missions.
- We need to make sure all instructors know how to operate the simulator and video recording equipment. Everyone has to get checked out. Everyone has to physically walk through the procedures.
- What if something breaks? Hughes will fix it.

4. What effect, if any, did crew coordination trained IPs and UTs operating with their battle-rostered crewmember have on the training?
- N/A
 - DES message curtails crew level training at this time.
5. Should a simulator session where IP/UT crews rate each other be used for practice evaluations in the Instructor Course or are the rating exercises using video segments adequate?
- See item 3 above.
 - What does the project staff think about the approach of using only four missions? Well, it seems that it might work but we can't be sure. It will be important to get feedback on the approach.
6. What effect [AH], if any, did the pre-training evaluation mission in the simulator have on the classroom instruction part of the Instructor Course and the Student Course?
- NA
 - A pretraining evaluation mission was not part of the cadre course. The class at Fort Campbell will have the pre-training ride.
 - If we had completed a pre-training evaluation mission, we could have used experiences as teaching examples.
 - Suggest that the debriefing for the pre-training rides focus on only the ATM elements as introduction to what students will experience in the classroom.
 - The mission debriefing shouldn't be too detailed. Just plant the crew coordination concepts.
7. Did you read the read-ahead package materials? If, yes, did the read-ahead packages reduce the amount of time spent on specific subjects? Did they enhance the flow of the course? Did you review the homework assignments at the beginning of each day's instruction?
- I read some of them, but not all.
 - Wait, the read ahead is only a few pages. The read-ahead you got was a lot more. So, don't confuse the homework with the read-ahead.
 - As I understand it there are two read-aheads. One before and one after the pre-training ride. Right.
 - But for the read-aheads that you were assigned, did that help?
 - Some articles helped; some didn't.
 - Didn't read many.
 - The first few read-aheads are really good background. Conceptual things should be used for the read-aheads.

- I'm still confused about the difference between read-ahead and homework assignment. [Instructor read-ahead and Student read-ahead number two include homework reading assignments.]
- We have to get more specific about what's required and make it clearer.

8. Did the Instructor Course adequately prepare you to teach the Student course?

- This question presumes we have taught the course.
- No, but we know how to prepare ourselves. We know what we have to do.
- You've shown us what we need to do. Now we have to do it.
- The answer cannot be known until after we teach the course. But we have the information we need.
- Were you adequately prepared to do the rehearsal teach backs?
 - Yes. I got a lot of insight into techniques and teaching proficiency. I think it prepared me pretty well for what is ahead of me.
 - There is a lot of material. It's going to take more time. More individual study.
 - One flaw is that there is no time for teach back designed into the Instructor Course. We have to try to schedule time for a teach-back period.
- You've given me the knowledge to teach anything in this course. You gave us the working knowledge.
- We need to monitor the first classes taught by Fort Campbell instructors.

9. Are there any Instructor Course segments (for example, MOI, evaluation, scenario development) that should receive more or less emphasis?

- Seemed that the right things were covered. You stuck to the important things.
- This reminds me of one thing. Why are there articles on stress management? Stress is mainly background, its not emphasized in the course.
 - You should try emphasize it in the course.
 - Maybe we need to cut down on the amount of articles on stress.
- Did we do the stress exercise in class? [Yes]
- The crosswalk chart needs to be introduced earlier. It would have helped me to make better sense of things.

III. Scenarios

1. Were the evaluation scenarios of about the correct level of difficulty?

- OH-58s, yes.
- Just right.
- We have to be careful not to put too much into the scenario or it will become unrealistic.
[How was the \$863K allocated? \$400+K went to equip the simulators leaving about \$300+K for books, TDY, etc.]

2. Were the evaluation scenarios reasonably realistic?

- Yes.
- See comments at item 1 above.

3. Was there enough pre-mission planning time for the crews?

- Yes.
- It may be a good idea to do aircraft pre-flight inspections early or lengthen the time for premission planning and rehearsal.
- In the OH-58, we used about 2 hours for premission planning and aircraft preflight. On our visits, we need to schedule the aircraft for a day but use only 1.5 hours flight time.
- In deciding how much time to spend doing the cockpit systems checks we need to make a trade-off of how much information we get for those activities versus how much information we can get by having crews do other ATM tasks.
- If we skip the cockpit checks, then we'll have to be careful about the simulator initial conditions set up because many IOs don't know the normal position of the switches.
 - This shouldn't be a big problem.

4. Did the scenarios allow adequate demonstration and observation of the 13 crew coordination Basic Qualities?

- Yes, absolutely.
- To be honest, this is not an issue. All missions include the 13 BQs.
- Missions should be complex enough to stress the crews. That's a good technique.

5. Did the crew-level AAR checklist adequately cover all aspects of the mission? Should any items be added or deleted?

- What is this METL thing? Is that addressed?
 - Each unit defines its unique mission essential task list (METL). In the FW area, you may not

- deal with unit METL except for the RC-12 units because they support a higher command.
 - IP/UTs should use METL when they develop their unit specific scenarios.
- The AAR checklist will have to be modified for FW, but not immediately. We'll try it out for now. Later, we'll make a revision and get it approved by the cadre.

IV. Evaluation

1. **Were mission videotapes/audiotapes of pre-mission planning, flight, and crew-level after action review segments helpful to instruct and evaluate? If yes, how were they helpful?**
 - I like the video tapes used in the crew coordination training program. They are superior to the video tape segments used in IERW academic instruction.
 - The number of video segments needs to be increased. Students like the videos in the course. Video tape segments must be professional quality to preserve course standards.
 - The camera in the planning and review room keeps the crews focused on the task at hand. This is not even an issue. It's a positive influence.
 - I used the pre-mission tape for review.
 - The cadre needs to think about ways to better use the planning and AAR tapes for instructional purposes. For instance, maybe it's a good idea to have the aviators bring the tapes home where they have the time to review the tapes.
 - I think all tapes should be erased.
 - We need a bulk tape eraser.
 - Rewinders have already been purchased.
2. **Are audio recordings [OH] and evaluator observations of flight segments adequate to instruct and evaluate crew coordination skills?**
 - We only had the recorders for one day. For our [OH-58] mission, because my crew already had the instruction, we agreed on the points that CW2 Nickles brought up to us, so we didn't need to use the tape. Sometimes, tapes would be useful to resolve a dispute. There are times when we would have to refer to the flight audio tape.
 - The quality was clear.
 - I need to get a model number of the equipment used by CW2 Nickles of the 229th.
 - Isn't Hughes buying audio recorders? Answer: Not sure.

3. During your instructor debriefing, did you review the whole videotape/audiotape or did you refer only to specific segments?
 - Segments.
 - The elapsed time counter is very important.
 - In the AH-64 we'll need to use a scanning technique to find where we want to go on the tape. I suggest setting the counter to zero, using a stop watch and then fast forward to the place of interest since the elapsed time counter on the VCR is not visible from the CPG observer station.
4. What general comments did the aircrews make as they observed/listened to their tapes?
 - Positive, during both evaluator debrief and crew self-critique.
5. If video recording of flight segments is not possible, can objective and reliable crew coordination evaluations be conducted in the aircraft? For example, can evaluations be conducted from:
 - a. A non-flying station (back seat or jump seat) [OH]?
 - I can answer all three of these questions (a,b,c).
 - A is adequate, no problems.
 - Also, we should schedule the training in terms of the power limitations so that three people can be in the aircraft.
 - b. A flying station as a crewmember [AH & OH]?
 - B is adequate but difficult.
 - c. Another aircraft [OH]?
 - C would be very difficult or impossible as many crew interactions could not be observed.
6. Were the behavioral anchors useful or not useful to you in achieving objective and reliable ratings of crew performance? How did you use the behavioral anchors?
 - I didn't use them very well. I need to practice more.
 - I could use more practice. It helped us to look at the anchors to evaluate.
 - It's important to continue to refer to the descriptions.

7. Did the video segments [used in the Instructor Course evaluation workshop and practice evaluations] provide adequate opportunity for practicing your application of the rating scales?
- See section II, item 3 above.
8. Were you reluctant to give crews task and mission grades below "satisfactory" or crew coordination ratings below "acceptable"? If yes, why?
- No problems. No hesitation.
 - We have to be careful of situations where, for instance, a CW2 is rating a Major.
 - Recall that a 4 rating is acceptable.
 - The team needs to have a copy of all technical reports sent to ARI regarding the FY1992 crew coordination effort. [DRC provided one copy of each technical report.]
9. How often did you refer to the written descriptions in the behavioral anchors?
- Each self-evaluation and practice evaluation.
10. Was the satisfactory plus (S+), satisfactory (S), and satisfactory minus (S-) grading system helpful?
- Yes. It works well and produces better documentation.
 - Would like to use the expanded grading system on a regular basis.

IV. General Observations

1. What is your overall impression of the adequacy of the aircrew coordination training provided? Do you have any recommendations for improvement?
- I thought this course was excellent.
 - I had heard some bad things before about this course. I came in with bad feelings. But after going through the course, I wish my schedule allowed me to teach the course on the road.
 - I've been exposed to CRM courses before, but this is the most inclusive. It's a working course; it's practical and can be graded. This can be applied. As far as improving the course, we needed more time for preparation.
 - I'm still working on the NRC part of the course. There are a lot of things to work out for NRCs. Tomorrow, I'm going to have a meeting with about 30 other FEIs and let them know what's going on. I'll try to get feedback to the cadre before leaving for Fort Campbell.

- There are lots of things to work out: flight hours; academics hours, what about grading, etc., etc.
 - The course was extremely enjoyable, thorough, but nicely paced. I do not think you can improve any particular area at this time.
 - I think more instruction on the organization of the course materials (3 volumes) is needed to make sure everyone understands which book is designed for what.
2. **What is your overall impression of the adequacy of the evaluation training provided? Do you have any recommendations for improvement?**
- I am optimistic about being ready to evaluate as well as train any level of students-IP, SIP, PC, or P.
 - Consider talking students through the grading process by using segments of a single mission video tape.
 - Spend more time practice evaluating video segments.
3. **What is your overall impression of the adequacy of the aircrew coordination evaluations? Do you have any recommendations for improvement?**
- I feel that the approach is fundamentally correct. I am anxious to see what mean grades the crews will establish.
4. **Did anything presented in the classroom or hands-on instruction suggest actions that could potentially compromise flight safety? If yes, please provide specific examples.**
- We discussed it thoroughly enough but the two challenge rule remains virtually unresolved and poses a safety hazard if interpreted incorrectly.
 - No. Although opinions were voiced concerning the two challenge rule, I feel it is a useful, not dangerous, tool for cockpit application.
5. **Do you have any questions, concerns, or recommendations that you would like to ask or convey to the crew coordination project staff?**
- I am thoroughly pleased to have received this course. You have "set the course" for us-now if we can just do as well as you.
 - An excellent job. Your enthusiasm, knowledge, and concern for the quality of the implementation of this concept taught me plenty.

Appendix B

Crew Coordination Courses Lesson Plan

C-VG 01

Crew Coordination Courses

C-VG 02

1. Introduction of the Aircrew Coordination Exportable Training Package:
 - a. Trainer Guide
 - b. Instructor Guide
 - c. Student Guide
 - d. Detailed walk-through and purpose of each guide.
2. Trainer Guide.
 - a. Detailed walk-through.
 - b. Marginal information and other remarks explained during Instructor Guide walk-through.
3. Instructor Guide.
 - a. Detailed walk-through.

C-VG 03

- b. Marginal information and other remarks:
 - (1) Time hacks (Pg 3-11)
 - (2) Vu-graphs and repeated use (Pg 3-12)
 - (3) Video vignettes (Pg 3-13)
 - (4) Talking point bullets (Pg 3-13)
 - (5) Instructor notes (Pg 3-13)
 - (6) Student Guide page alignment (Pg 3-15)
 - (7) Background reading reference (Pg 3-21)

(8) Appendix reference (Pg 3-21)

(9) Practical exercise information (3-48).

- c. Need to keep good notes since you will use the Instructor Guide to conduct the Instructor and Student Courses.

4. Student Guide.

- a. Detailed walk-through.
- b. Will not use for notes during Cadre or Trainer Courses.

C-VG 04

- c. Mirrors Section 3 of Instructor Guide but has several significant differences:

- (1) Marginal information absent
- (2) Instructor cues absent
- (3) Parenthetical remarks absent
- (4) Talking point root only
- (5) Page numbering different

- d. Follow both Instructor and Student Guides simultaneously during Cadre course to observe differences.

C-VG 05

5. Course structuring.

- a. Cadre Course (Cadre Training Schedule Handout).

C-VG 06

- b. Instructor Course (51 hours).

C-VG 07

- c. Student Course (38 hours - described during Student Course).

C-VG 08

- 6. Framework of the Aircrew Coordination Course (each item explained in detail during Student Course):

- a. Crew Coordination Elements
- b. ATM Tasks
- c. Basic Qualities
- d. Crew Coordination Objectives

C-VG 09

- e. Crew Coordination Model (Student Guide, Pg. G-17)

C-VG 10

- f. Crew Coordination in Army Aviation Graphic

C-VG 11

- g. Cross-Walk Chart.

C-VG 12

7. Evaluation of Crew Coordination Training.

- a. Subjective evaluation system used in commercial aviation crew coordination programs.
- b. Objective evaluation system developed and validated for Army aviation.
- c. Evaluation methods and techniques will be taught during the Cadre and Instructor Courses.

C-VG 13

8. Begin Student Course instruction.

- a. Setting the stage.
 - (1) Instructors should have read the one Instructor and two Student Read-aheads, and the reading assignments for hours 1 - 6.
 - (2) Instructors may be in a variety of mind states as a result of the premission evaluation ride; may range from satisfaction to frustration, anger, or distress.

b. Prior to beginning instruction:

- (1) Enquire as to instructor's feelings with respect to the premission evaluation ride
- (2) Emphasize that the purpose of the course is to demonstrate to them what they need to know to meet the crew coordination requirements of the ATM tasks.

S-VG 01

c. Begin Student Course instruction.

Appendix C

Cadre Course Methods of Instruction

C-VG 14

Cadre Course

Methods of Instruction

C-VG 15

1. Will cover:
 - a. Major teaching points
 - b. Presentation of instruction
 - c. Instructional material teach-back
 - d. Presentation of the Instructor Course
 - e. Presentation of the Student Course
 - f. Administrative Support Plan.

C-VG 16

2. Major teaching points (Use Instructor Guide with notes):
 - a. Student Course (pps. 3-12 to 3-132)
 - b. Organization for evaluation (pg. 4-1)
 - c. Scheduling of simulator/flight training (pg. 4-2)
 - d. Evaluation personnel duties (pg. 4-3)
 - e. Use of aircrew coordination evaluation materials (pps. 4-5/4-6)

C-VG 17A/17B

- f. Aircrew coordination evaluation exercises
 - (1) Workshop (pg. 4-6)
 - (2) Simulator/aircraft (pg. 5-1)
- g. Evaluation process (pg. 4-7)
- h. Evaluation of aircrew coordination continuation training in units (pg. 4-8)

- i. Scenario development guidelines (pg. 4-9)
- j. Simulator and aircraft scenarios (pg. 4-10)
- k. Scenario development procedures and materials (pg. 4-12)
- l. Audio/visual support of aircrew coordination training (pg. 4-13).

C-VG 18

- 3. Presentation of instruction.

C-VG 19/20/21/22/23/24/25A/25B/26/27/28/29

- a. Teaching aids, learning exercises, and practice opportunities (Trainer Guide, pps. 2-14 to 2-20).

C-VG 30/T-VG 36

- b. Helpful hints:

- (1) Enthusiasm

- (a) Believe in what you are doing
 - (b) Best product for crew coordination
 - (c) Audience curious—foster curiosity!

C-VG 31/T-VG 37

- (2) Delivery

- (a) Don't lecture
 - (b) Use many examples from experience
 - (c) Invite audience participation
 - (d) Watch out for nervous mannerisms (pointer, shuffling, keys, OK?)
 - (e) Keep to the break schedule

C-VG 32/T-VG 38

- (3) Viewgraphs/slides

- (a) Coordinate use with presentation
 - (b) Turn off if not using for extended period

- (c) Use to support since not everything on them
- (d) Be comfortable with their use and sequence

C-VG 33/T-VG 39

(4) Questions

- (a) Restate a question from the audience before answering
- (b) Ask question, pause, then designate person to answer
- (c) Be attentive to answer, don't consult notes, etc
- (d) Commend as appropriate, or seek another answer-don't criticize!
- (e) Use questions to tie-in with next topic if possible.

C-VG 34/T-VG 40

- 4. Teach-back of Student Course Instruction:
 - a. Assigned earlier in course
 - b. Chance to clear up any misunderstandings of material
 - c. Present to entire class as would in the field
 - d. Critiqued by project staff (30 minute max); other students invited to submit written comments.

C-VG 35/T-VG 41

- 5. Presentation of the Trainer/Instructor Course:
 - a. Introducing the Aircrew Coordination Exportable Training Course (Trainer Guide, pps. iii to xiii)
 - b. About the Trainer Course (Trainer Guide, pps. xviii to xxvi).

6. Presentation of the Student Course:

a. Introducing the Instructor Guide (Instructor Guide, pps. vii to xiv)

b. About the Aircrew Coordination Course (Instructor Guide, pps. 3-1 to 3-10).

C-VG 36/T-VG 42

7. Administrative support plan for crew coordination training.

Appendix D

Message, Implementation of TC 1-210

231300Z JUL 93 (CDRUSAAVNC)

SUBJECT: IMPLEMENTATION OF TC 1-210, COMMANDER'S GUIDE TO INDIVIDUAL AND CREW TRAINING

A. USAAVNC MSG 230830 JUN 92, SUBJ: IMPLEMENTATION OF TC 1-210, COMMANDER'S GUIDE TO INDIVIDUAL AND CREW TRAINING.

B. STACOM 154, OCT 92, SUBJ: TC 1-210: AIRCREW TRAINING PROGRAM, COMMANDER'S GUIDE TO INDIVIDUAL AND CREW TRAINING.

1. THE IMPLEMENTATION GUIDANCE FOR TC 1-210 AS STATED IN THE ABOVE REFERENCES IS MODIFIED AS FOLLOWS: COMMANDER'S ARE NOT REQUIRED TO IMPLEMENT CREW READINESS LEVEL PROGRESSION OF CREW TRAINING UNTIL FURTHER NOTICE.

2. THE ARMY RESEARCH INSTITUTE AND THE US ARMY AVIATION CENTER (USAAVNC) ARE CONTINUING TO STUDY THE EFFECTIVENESS OF CREW TRAINING AND THE RELATIONSHIP BETWEEN CREW COORDINATION AND BATTLE ROSTERING. THE RESULTS WILL IMPACT THE IMPLEMENTATION OF CREW PROGRAMS. ADDITIONALLY, THIS YEAR USAAVNC WILL START TO FIELD AN EXPORTABLE PACKAGE FOR CREW COORDINATION TRAINING. THIS INSTRUCTION WILL BECOME THE CORNERSTONE FOR UNIT CREW PROGRAMS. FURTHER GUIDANCE WILL FOLLOW PENDING THE COMPLETION OF THE ARI AND USAAVNC STUDIES.

3. POINT OF CONTACT AT DES IS CPT JEROME C. MEYER, DSN 558-3504/6309. POINT OF CONTACT FOR TC 1-210 IS CW3 JAMES GODDARD, DSN 558-3801.

Appendix E

BARS Example

Rating Scale

The following numeric rating scale is used to assess the level of behavior that crews exhibit for each Basic Quality shown at the bottom of the Aircrew Coordination Training Grade Slip. Each Basic Quality is rated using a seven-point scale with values ranging from 1 (very poor) to 7 (superior):

Very Poor	Poor	Marginal	Accept- able	Good	Very Good	Superior
1	2	3	4	5	6	7

Written descriptions of the types of behaviors and levels of performance are shown for rating values 1, 4, and 7. These descriptions serve as behavioral "anchors" and are designed to assist you in determining how well a crew performs on each Basic Quality in relation to a well-defined set of behaviors. You should use the "anchors" as the standard for making ratings--don't fall into the trap of comparing one crew's performance with that of another crew's; rate a crew's performance in relation to the "anchors." To ensure reliable ratings, continue to refer to the anchors when making rating responses until you are *completely* confident that you *fully* understand how to rate each Basic Quality.

In completing a Basic Quality rating, you should decide whether the behaviors observed fall into the low end of the Basic Quality range (values 1 or 2), the middle of the range (values 3, 4, or 5), or the high end of the range (values 6 or 7). Once you have selected the general range of response, use the anchors to help select the final rating value. For example, if a crew did an adequate job of premission planning and rehearsal, the rating would come from the middle of the range (3, 4, or 5). After determining this, you would review the behavioral description (anchor) associated with value 4 to determine if crew performance resembled this description (4 value), was somewhat less than this description (3 value), or was a little better than this description (5 value). You use the end-point anchors similarly to help determine ratings that fall near the ends of the scale.

Army aviation crews that have little or no training in aircrew coordination techniques will score most frequently in the lower half of the scale. Most other crews, however, will fall into the middle area of the scale. Keep in mind that although Army aviators have well developed basic flying skills, as a group, their aircrew coordination skills will be much like the rest of the population. A few crews will have strong coordination and

communication skills, a few will have weak skills, and a significant number will have moderate skills.

Basic Quality 13. Crew-level after-action reviews accomplished (AAR)

Explanation

This rating evaluates the extent to which the crew reviews and critiques its decisions and actions during or following a mission segment, during low workload periods, or during the post flight debrief. Evaluate the crew on their discussion of strengths and weaknesses (for example, what was done wrong, what might be done better, how improvements can be made, and what was done very well) in flight skills and aircrew coordination.

Superior Rating (7)

The entire crew reviews and critiques its decisions and actions throughout the mission, including the premission planning and rehearsal process. Crewmembers review factors considered in making their decisions, identify additional options or factors, including ways to "buy time," that should have been considered, and discuss different methods of weighting information in the decision process. All discussions focus on behaviors and information and carefully avoid any "finger-pointing" tones. The focus is clearly on education and understanding to improve individual and collective performance.

Acceptable Rating (4)

Senior crewmember(s) review and critique the crew's decisions and actions during problematic segments of the mission. They determine the major mistakes in the crew's actions or decisions and identify remedial actions or alternative options for future missions. Although the critiques are intended to educate the crew and to improve their performance during future missions, they may include some accountability for unsatisfactory performance.

Very Poor Rating (1)

The crew either fails to review and critique its mission performance or if a critique is performed, it is punitive or accusatory. That is, the critique is conducted primarily to assign blame for unsatisfactory performance. Little effort is made to identify lessons learned or to suggest constructive ways to improve future performance.

Appendix F

Training Schedule

Crew Coordination Cadre Training Course Schedule

Date	Location/Time	Instructor	Subject
2 August	Building 5207, Ford Hall 0800, Room B22	Grubb	Orientation to Cadre Course
	0900	Pawlik	Crew Coordination Courses Introduction
	1200		Lunch
	1300, Room B11	Pawlik	Introduction (Concluded) CCO 1 and BQ1
3 August	Building 5207, Ford Hall 0800, Room A13	Zeller	CCO 2 and BQs 2 & 3
	1200		Lunch
	1300, Room B11	Zeller	CCO 3 and BQs 4 & 5
		Grubb	CCO 4 and BQ6
4 August	Building 5207, Ford Hall 0800, Room A13	Grubb	BQs 7, 8, & 9
		Pawlik	CCO 5 and BQ 10
	1200		Lunch
	1300, Room B13	Pawlik Zeller	BQs 11, 12 & 13 Simulator/Aircraft Briefing

Crew Coordination Cadre Training Course Schedule (Continued)

Date	Location/Time	Instructor	Subject
5 August	Simulator or Aircraft		Training Mission 1
	<u>AH-64 CMS</u> 0730 - 0900	Sheehan	Prepermission Planning
	0900 - 1045		Rehearsal
	1045 - 1330		Simulator After-Action Review
	<u>C-12 FS (FSI)</u> 0730 - 0900	Zeller	Prepermission Planning
	0900 - 1100		Rehearsal
	1100 - 1345		Simulator After-Action Review
	<u>CH-47 FS</u> 0800 - 0930	Grubb	Prepermission Planning
	0930 - 1115		Rehearsal
	1115 - 1400		Simulator After-Action Review
	<u>OH-58C</u> (Airfield) 0730 - 0900	229th IP	Prepermission Planning
	0900 - 1045		Rehearsal
	1045 - 1330		Aircraft After-Action Review
	<u>UH-60 FS</u> 0815 - 0945	Pawlik	Prepermission Planning
	0945 - 1130		Rehearsal
	1130 - 1415		Simulator After-Action Review

Crew Coordination Cadre Training Course Schedule (Continued)

Date	Location/Time	Instructor	Subject
6 August	Simulator or Aircraft		Training Mission 2
	AH-64 CMS		
	0730 - 0900	Sheehan	Premission Planning Rehearsal Simulator After-Action Review
	0900 - 1045		
	1045 - 1330		
	C-12 FS (FSI)		
	0900 - 1030	Zeller	Premission Planning Rehearsal Simulator After-Action Review
	1030 - 1230		
	1230 - 1515		
	CH-47 FS		
	0800 - 0930	Grubb	Premission Planning Rehearsal Simulator After-Action Review
	0930 - 1115		
	1115 - 1400		
	OH-58C		
	(Airfield)		
	0730 - 0900	229th IP	Premission Planning Rehearsal Aircraft After-Action Review
	0900 - 1045		
	1045 - 1330		
	UH-60 FS		
	0815 - 0945	Pawlik	Premission Planning Rehearsal Simulator After-Action Review
9 August	Building 5207, Ford Hall		
	0800, Room B12	Zeller	Scenario Development Develop Practice Eval
	1000		
	1200		Lunch
Scenario	1300		Complete Practice
Scenario	1430, Simulator		Test Practice Eval

Crew Coordination Cadre Training Course Schedule (Continued)

Date	Location/Time	Instructor	Subject
Scenario 10 August	Building 5207, Ford Hall 0800, Room B14 1200 1300, Room B22	Grubb	Evaluation Procedures Lunch Practice Evaluation Exercises
11 August	Building 9009 0800 1200 1300	Staff	Prepare Evaluation Materials Lunch Complete Evaluation Materials
12 August	Simulator or Aircraft <u>AH-64 CMS</u> 0730 - 0900 0900 - 1045 1045 - 1330	Sheehan	Practice Evaluation Mission Prepermission Planning Rehearsal Simulator After-Action Review
12 August (cont'd)	<u>C-12 FS (FSI)</u> 0730 - 0900 0900 - 1100 1100 - 1345 <u>CH-47 FS</u> 0800 - 0930 0930 - 1115 1115 - 1400	Zeller	Prepermission Planning Rehearsal Simulator After-Action Review
		Grubb	Prepermission Planning Rehearsal Simulator After-Action Review
12 August (cont'd)	<u>OH-58C</u> <u>(Airfield)</u> 0730 - 0900 0900 - 1100 1100 - 1345 <u>UH-60 FS</u> 0815 - 0945 0945 - 1130 1130 - 1415	229th IP	Prepermission Planning Rehearsal Simulator After-Action Review
		Pawlik	Prepermission Planning Rehearsal Simulator After-Action Review

Crew Coordination Cadre Training Course Schedule (Continued)

Date	Location/Time	Instructor	Subject
13 August	Building 5207, Ford Hall 0800, Room B13 1200 1300	Staff Pawlik	Course Summary Lunch Methods of Instruction
16 August	Building 5207, Ford Hall 0800, Room A12 1200 1300	Staff	Cadre Teach-Back & Critique Lunch Cadre Teach-Back & Critique
17 August	Building 5207, Ford Hall 0800, Room A12 1200 1300	Staff	Cadre Teach-Back & Critique Lunch Cadre Teach-Back & Critique

Appendix G

Administrative Support Plan Checklist

Crew Coordination Exportable Training Package Administrative Support Plan Checklist

☐ **Mission Analysis**

- ☐ Target audience - Number and type of students
- ☐ Time period available
- ☐ Proponent agency - Command support
- ☐ Lead time requirements - Coordination meetings and messages

☐ **Schedules**

- ☐ Weeks by day - Classroom academics, simulator/aircraft including make up periods
- ☐ Days by hour - Locations, instructors, special equipment

☐ **Facilities**

- ☐ Classroom(s) - Proponent POC
- ☐ Simulator(s) - Proponent POC
- ☐ Planning and After-Action Review rooms - Proponent POC

☐ **Equipment**

- ☐ Aircraft - Proponent POC
 - Audio recorder and Y-cords
 - Video camera-recorder with tripod - Planning and AAR
 - VHS player with monitor - Planning and AAR
- ☐ Classroom Audio Visual
 - Slide projector with remote
 - VHS player with monitor
 - Overhead projector
 - Screen
- ☐ Simulator
 - Video recording suite
 - Video camera-recorder with tripod
 - VHS player with monitor

□ **Materials**

□ **Academics**

- Class roster - Certificates, flight record entries
- Course guide books - Print plant long lead time, advance issue
- Notebook binders with tabs - SSSC lead time, size, assembly
- Slides, videotapes, overheads
- Read-aheads - Advance issue
- Practical exercises - No communications PE in Student Guide
- Errata sheets

□ **Simulator/Aircraft**

- Grade slips
- Videotapes/Voice tapes
- Evaluator workbook (Optional) - Evaluator worksheets

□ **Issue sets**

- Installations
- Units

□ **Scenarios**

- Modify baseline scenarios as required - OPORD
 - Revise scenario outline segments
 - Add/delete ATM tasks
- Coordinate with IO - IO script
- Test and rehearse - Simulator support

□ **Course Completion**

- Course critique/exit interview (Optional) - Example questions
- Certificates of training completion - Signatures lead time
- Authorization for official flight record entry

□ **Follow-Through**

- Review new instructor's planning for first course
- Monitor new instructor's presentation of first course - Academics, simulator/aircraft, teach back (Optional)

□ **General**

- Temporary duty
 - Travel - Schedule, orders, tickets, POV/rental car
 - Per diem - Lodging, meals
 - Finance - Retained advance, government credit cards

- Communications
 - Telephone - Fax, government credit card
 - Fedex - prepaid mailers

- Technical support
 - Secretarial - Notebook computer
 - Reproduction - Print plant
 - Training aids - TASC

Note: See Trainer Guide pages iii to xiii and Instructor Guide pages vii to xiv for descriptions of the training materials and procedures to conduct each course.